

REMARKS/ARGUMENTS

The arguments and amendments presented herein include the arguments and amendments Applicants discussed with the Examiner during phone interview dated August 18, 2008. The Examiner requested Applicants to submit the discussed arguments and amendments for reconsideration, which Applicants present herein. Applicants submit that the arguments and amendments presented herein make the substance of the phone interview of record to comply with 37 CFR 1.133. If the Examiner believes that further information on the interview needs to be made of record to comply with the requirements, Applicants request the Examiner to identify such further information.

Claims 3, 11, 15, and 22 are canceled.

1. Claims 1, 4-6, 9, 12-14, 16, 18, 20, and 23-25 are Patentable Over the Cited Art

The Examiner rejected claims 1, 4-6, 9, 12-14, 16, 18, 20, and 23-25 as obvious (35 U.S.C. §103) over Masuyama (U.S. Patent Pub. No. 2005/0058063). Applicants traverse with respect to the amended claims.

Amended independent claims 1, 9, 18, and 20 require that an intermediate device driver in communication with at least one adaptor device driver providing an interface to adaptors perform operations comprising: managing transmission of data through a plurality of adaptors connected to switches; sending through the adaptors at least one query to the switches connected to the adaptor to determine a status of external ports in each queried switch communicating with a network; and in response to determining from the at least one query that no external ports are operational in one non-operational switch, indicating not to transmit data to the adaptor connected to the non-operational switch, wherein the adaptor for which indication is made not to transmit data is functioning and capable of transmitting; and indicating to transmit data to one adaptor connected to one switch having at least one operational external port in response to determining from the at least one query that at least one external port in the switch is operational when the switch was previously indicated as non-operational;

Applicants amended these claims to include requirements of claims 3 and 7 as discussed with the Examiner. The Examiner indicated that these amendments could advance prosecution. Applicants submit that the amended claims distinguish over the cited art for the reasons discussed herein.

The Examiner cited paras. 17 and 26-27 of Masuyama as teaching requirements of pre-amended claim 1. (Office Action, pgs. 3-4) Applicants traverse with respect to the amended claims.

The cited para. 17 mentions supporting failover through the use of probe packets that are periodically transmitted to detect component failure. Although the cited para. 17 discusses probe packets to detect component failure, this does not teach the specific claim requirements that an intermediate device driver communicating with at least one adaptor device driver cause sending of queries to switches to determine a status of external ports in each queried switch. Further, sending probe packets to detect a failure does not teach or suggest the claim requirement of an intermediate device driver indicating to not transmit to an adaptor connected to a switch determined not to have any operational external ports and indicating to transmit to an adaptor connected to a switch having at least one operational port.

The cited paras. 26-27 mentions failing over from one NID (corresponding to an adaptor) to another in response to link loss. Para. 26 mentions that when the switch detects failure on the uplink, the switch failover circuit disrupts the communication on the downlink 60 to trigger failover to the other switch 44. This teaches away from the claims which require that an intermediate device driver in communication with at least one adaptor device driver cause the adaptors to probe the functioning switch to determine ports, or uplinks, that are operational and for the intermediate device driver to indicate the failure of a healthy adaptor if there is no port on a switch to which the adaptor connects that is operational, even though the adaptor is operational.

The cited paras. 26-27 teach away from this claimed approach because they have the switch determine whether uplinks or external ports are operational and trigger failover, whereas the claims require an intermediate device driver cause the adaptor to communicate with the switch to determine which ports are available and indicating to not use the adaptor if the switch to which it connects has no operational external port or indicating to use the adaptor if the connected switch has at least one port. Thus, the cited paras. 26-27 teach away from an intermediate device driver determining a specific switch port failure because in Masuyama, the switch does the failover, not an intermediate device driver communicating with at least one adaptor device driver providing an interface to the adaptors.

With respect to canceled claim 3, whose requirements were added to the independent claims, the Examiner cited para. 37 of Masuyama. (Final Office Action, pg. 4) Applicants traverse with respect to the amended claims.

The cited para. 37 discusses how if the switch detects that an uplink is down, the switch remains in fail-over mode. If the connection is restored on the uplink, the switch restores the downlink to return to normal mode. The cited para. 37 does not teach that an intermediate device driver indicate to transmit to an adaptor connected to a switch having an operational external port when the switch was previously non-operational. Instead, the cited para. 37 discusses the switch making this determination, not an intermediate device driver in a server communicating with adaptor device drivers to control the adaptors as claimed.

With respect to claim 7 whose requirements are added to the independent claims, the Examiner cited col. 4, lines 65-67, col. 5, lines 1-10, col. 7, lines 35-40, and col. 11, lines 5-20 of Latif as teaching the claim requirements that the intermediate device driver in communication with adaptor device drivers perform the operations. (Final Office Action, pg. 15) Applicants traverse with respect to the amended claims.

The cited col. 4 Latif discusses increasing throughput in a load balancing manner over a multi-port NIC (adaptor). The cited col. 5 mentions a NIC driver for managing loads and distributing loads over a multi-port adaptor (NIC). The cited col. 7 mentions that a NIC driver performs a link check timer routine for determining the port status on the NIC. The cited col. 11 discusses a timer routine of a NIC driver to determine if a port on the multi-port NIC (adaptor) is active.

Although the cited Latif discuss how an adaptor (NIC) driver determines operability of the ports on the adaptor, this does not teach or suggest the claimed operations of an intermediate device driver that communicates with at least one adaptor device driver interfacing with the adaptors. Instead, the cited Latif discusses operations of the adaptor device driver itself, not an intermediate device driver communicating with at least one adaptor device driver as claimed.

Accordingly, Applicants submit that amended independent claims 1, 9, 18, and 20 are patentable over the cited art because the cited Matsuyama do not teach or suggest all the claim requirements.

Claims 4-6, 12-14, 16, and 23-25 are patentable over the cited art because they depend from one of claims 1, 9, 18, and 20, which are patentable over the cited art for the reasons

discussed above. Moreover, the following dependent claims provide additional grounds of patentability over the cited art.

Claim 7 was amended to remove requirements incorporated into base claim 1.

Claims 10 and 12 were amended to recite the operations as performed by the intermediate device driver.

2. Claims 2, 7, 10, 19, 21, and 26 are Patentable Over the Cited Art

The Examiner rejected claims 2, 7, 10, 19, 21, and 26 as obvious (35 U.S.C. §103) over Masuyama in view of Latif. (Final Office Action, pg. 14)

Applicants submit that these claims are patentable over the cited art because the base claims 1, 9, and 18 from which they depend are patentable over the cited art.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1, 2, 4-10, 12-14, 16-21, and 23-27 are patentable. Should any additional fees be required beyond those paid, please charge Deposit Account No. 50-0585.

The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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